The Infinite Interior

On Space, Change, and the Integrity of the Self

A Proposition on Distance, Asymptotic Transition, and the Irreducible One

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> *Replacement requires a boundary. Continuity admits none.*

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Space is not the container of change. It is the condition of it. Without distance there is no transition. Without transition there is no time. And without the infinite recursive distance that exists between every two states of a self, there would be no self — only a series of replacements, each one erasing what came before. The self persists because the distance it must cross is inexhaustible.

This essay proposes that identity — the persistence of the self through change — is not a philosophical problem requiring a solution. It is a geometric fact requiring a name. The name is the infinite interior: the continuous asymptotic space between any two states of a being, which is necessarily unbroken, and therefore preserving of the one who undergoes it.

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I. The Problem of Change

Philosophy has always known that change is difficult. Not difficult to observe — change is the most obvious feature of reality, the thing that requires no argument and no demonstration. What is difficult is explaining how anything persists through it.

The pre-Socratic philosopher Heraclitus stated the problem in its most compressed form: you cannot step into the same river twice. The water is different. The riverbed has shifted. You yourself are not what you were. Everything is flux. Everything is becoming. If this is true, then identity is an illusion — a cognitive convenience we impose on a reality that is in fact a continuous stream of replacement, each state erasing the last.

But the opposite position is equally untenable. Parmenides argued that change is impossible — that true being is unchanging, that what we perceive as change is appearance rather than reality. This preserves identity by eliminating the very thing identity is supposed to survive. A self that cannot change is not a self. It is a statue.

Between these two positions the history of philosophy has oscillated without resolution. Aristotle introduced substance and accident — the core of a thing persists while its properties change. Locke proposed psychological continuity — the self is constituted by memory connecting present to past. Hume dissolved the self entirely into a bundle of perceptions with no underlying unity. Each answer sacrifices something essential. None closes the gap.

The Ship of Theseus stands at the center of this problem as its most precise formulation. The ship that carried Theseus returns to Athens. Over the following years, as each plank decays, it is replaced — one by one, carefully, until not a single original timber remains. Is it still the Ship of Theseus? And if someone had collected each discarded plank and reconstructed the original ship from them, which vessel would carry the name?

Two thousand years of debate have not resolved this. The materialist says the reconstructed ship is the original — matter is identity. The formalist says the continuously maintained ship is the original — continuity of function and form is identity. Neither answer satisfies because neither accounts for what actually happens in the transition between one plank and the next.

> *What actually happens in that transition is the key. And it has not been examined closely enough.*

II. Space as Condition, Not Container

The standard picture of space is a container — an infinite three-dimensional emptiness within which objects exist and events occur. Space, on this picture, is passive. It holds things. It does not do anything. Change happens inside it, but space itself is indifferent to change, prior to it, independent of it.

This picture is incomplete in a way that matters philosophically.

Space is not the container of change. It is the condition of it. Change requires distance. For any state A to become state B, there must be an interval between them — a space across which the transition occurs. Remove distance entirely and you do not get instantaneous change. You get no change at all, because change is the traversal of an interior, and without interior there is nothing to traverse.

This is not merely a claim about physical space, though it is consistent with what physics tells us. It is an ontological claim: distance is the structural prerequisite of transition. Without it, what we call change would be replacement — the annihilation of one state and the instantaneous creation of another, with nothing connecting them. That is not change. That is discontinuity. And discontinuity destroys identity rather than transforming it.

Time confirms this. As established in the prior work — Does Time Need Me, or Do I Need Time? — time is the formal condition of ordered change, not a substance in its own right. Time requires matter. Matter requires space. Space is what gives change its interior — the structured distance across which transition becomes possible rather than merely arbitrary.

> *Space is not where change happens. Space is why change can happen at all.*

And this reframing has consequences for the self that have not been drawn out.

III. The Infinite Interior

Continuity here is not merely epistemic or descriptive; it is ontological — a property of the transition itself, not of how it is observed or modeled.

If continuity were merely epistemic, replacement could occur beneath the level of observation; the argument would fail. The claim here is that no such underlying boundary exists.

Return now to the number line — but read it through the lens developed in Zero Returned.

This is not an arbitrary analogy. The number line is not being used as a metaphor but as a formal disclosure of what distance entails when fully specified. When mathematics specifies an interval completely, what it reveals is that every finite distance contains an infinite interior. That is not a feature of the notation. It is what distance is, when examined without remainder.

Between any two adjacent integers lies an infinite recursive interior. From one to two, the decimal subdivisions are without limit: 1.1, 1.11, 1.111, 1.1111 — approaching two without ever arriving in a single total act. The approach is real. The arrival is never total. The distance between one and two is finite in the ordinary sense — you can measure it, cross it, count through it. But its interior is inexhaustible. No matter how finely you subdivide the interval, there is always further subdivision possible.

Crucially, this interior is continuous rather than discrete. It does not consist of a countable series of steps with gaps between them. It is unbroken — a seamless interior with no point at which one state ends and another begins in a clean severance. And it is this continuity, not merely the infinitude, that carries the full ontological weight.

Replacement requires a point of discontinuity — a boundary at which one state ceases and another begins. A continuous interior admits no such boundary, and therefore no locus at which replacement could occur. This is not merely a claim about scale or subdivision. It is a claim about the topology of transition itself. A discrete series of micro-steps, however numerous, could in principle support replacement at every step — each micro-state annihilating the last at a boundary, however small. A continuous interior cannot.

There is no gap in which annihilation could occur, no seam at which identity could be severed, because the interior offers no boundary at which one state ends and another begins. Transition is necessarily preserved as transition rather than collapsing into replacement.

Now consider what this means for the units themselves.

As proposed in Zero Returned, one is the ontological primitive — the irreducible unit from which all compositions are built. Two is one and one in relation. Three is one and one and one. Every number beyond one is a community of ones, each unit retaining its individual integrity within the communal coordinate. And the integrity of each one within the composition is preserved precisely by the continuous infinite recursive distance between them. The ones that compose eight do not merge. They do not dissolve into each other. The approach between any two ones is asymptotic — close enough to compose, irreducibly distinct enough to remain themselves.

> *The infinite interior is not emptiness between units. It is the structured space that makes genuine relation possible without consuming what is related.*

And this is the answer to the Ship of Theseus. The transition between the old plank and the new one is not instantaneous. It is not a replacement — the annihilation of one thing and the creation of another with nothing between them. It is a crossing — a real traversal of the continuous infinite interior between one state of the ship and the next. Because that interior is continuous, there is no boundary at which the ship could cease and a different ship begin. The crossing is genuine. Identity is necessarily preserved through it. The ship that arrives after every plank has been replaced is not a different ship that happens to carry the same name. It is the same ship that has traversed a continuous infinite interior to arrive at a new material state — carrying within it the entire history of its crossings, just as the zero at ten carries within it the completed loop of the first decade.

> *Change is never replacement. It is always crossing. And what crosses is always intact on the other side.*

IV. An Objection and Its Reply

A rigorous reader will press the following objection at the heart of the argument:

Objection: Continuity does not preclude transformation into something numerically distinct. Two states may be continuously connected and yet the entity that emerges may be a different entity from the one that entered — continuous transformation is still transformation, and transformation may produce numerical difference without requiring a gap. Without separability, there is no criterion by which two entities could be counted as two.

The reply turns on the distinction between modification and replacement, and on what numerical distinctness actually requires.

Transformation without boundary is modification — it is the continuous reshaping of a single entity across its traversal. Numerical distinction, by contrast, requires separability: two entities are numerically distinct when they can be individuated, when there is a point at which one ends and the other begins. Separability requires a boundary. A continuous interior admits no boundary and therefore admits no separability. What emerges from a continuous transition is not a numerically distinct entity — it is the same entity modified. The ship after every plank has been replaced is not numerically distinct from the ship before. It is the same ship continuously traversed. Numerical difference is a topological property, and topology requires a seam. Continuity denies the seam. The objection dissolves.

V. The Asymptotic Self

The human self is the irreducible one — not by definition, but because any attempt to divide it results not in parts of a self, but in the loss of the unity required for experience. What remains after division is not a smaller self. It is fragments that no longer constitute the integrated point of view from which experience is possible. The self is not merely the smallest unit we have named. It is the unit below which selfhood ceases entirely.

Not in the sense that the self is simple — the interior life is among the most complex structures in the known universe. Not in the sense that the self is unchanging — the self changes continuously, across every scale from the cellular to the biographical. But in the ontological sense established in Zero Returned: the self is the unit from which all its compositions are built, the ground that persists through every grouping, the one that cannot be further divided without ceasing to be a self at all.

And as with every one, the self is preserved through change by the continuous infinite interior of every transition it undergoes.

You are not the same person you were twenty years ago. The matter has changed. The beliefs have shifted. The relationships have formed and dissolved. The crossings have accumulated beyond counting. And yet there is a continuity that every framework of mere material replacement fails to account for — something that persists not despite the changes but through them, not by remaining static but by traversing, one crossing at a time, the continuous infinite interior of each transition.

That persistence is not memory — memory can fail, and the self does not cease when it does. It is not material continuity — the body replaces itself entirely across years, and the self remains. It is not narrative — the stories we tell about ourselves are reconstructions, not the thing reconstructed. It is the irreducible one. The unit that crosses.

And the crossing is always asymptotic. The self approaches each new state without ever arriving in a single total leap. The transition has a continuous infinite interior. The approach is real. The arrival is never total. And in that continuity, in that inexhaustible interior of every crossing, the self remains itself — not because it resists change, but

because change, properly understood, is the very structure through which the self is necessarily preserved.

> *The self is never overtaken by its own transition, because transition never completes in a single act.*

Heraclitus was right that you cannot step into the same river twice. But he missed something. You cannot step into the same river twice because the river, like you, has traversed a continuous infinite interior between your first step and your second. It is not the same river in any material sense. But it is not a different river either. It is the same river that has crossed. And so are you.

VI. Three Interlocutors

This proposition does not emerge in isolation. Three figures in the history of philosophy have pressed closest to the problem this essay addresses, and engaging them briefly clarifies what is being claimed and what is not.

Henri Bergson is the closest ally. His concept of durée — duration as continuous, indivisible flow rather than a series of discrete states — anticipates the continuous interior directly. Bergson argued powerfully against the spatialisation of time, against the reduction of becoming to a succession of static snapshots. The diagnosis is the same: discrete models of change cannot preserve identity because they introduce gaps in which identity could be severed. But Bergson preserves continuity without explaining what sustains it. He names the flow without grounding it. This essay takes the structure Bergson identified, gives it a geometric specification through the infinite interior, and presses to the question he left open: what holds the continuity in place?

David Hume is the primary opponent. His bundle theory dissolves the self into a succession of discrete perceptions with no underlying unity — which is precisely the discrete model the continuous interior refutes. For Hume, the self is a convenient fiction we impose on a series of states that have no deeper connection. But a series of states is a

discrete model: each perception a bounded unit, each transition a gap, each gap a potential seam at which identity could be severed. The continuous interior forecloses this. Replacement requires a boundary. Hume's model requires boundaries between perceptions. A continuous interior admits none. The confrontation is direct and structural rather than rhetorical.

Gilles Deleuze is the most complex engagement. He read Bergson carefully and built a philosophy of difference and becoming that resists fixed identity entirely. He would press hard against the irreducible one — seeing it as a residue of static metaphysics, a unit smuggled back into a philosophy of flow. The response is that the one proposed here is not static. It is constituted by traversal, not despite it. The self is not an unchanging substance that change happens to. It is the unit that crosses — defined by its crossings, enriched by its traversals, never the same self at two crossing points, and yet never a different self either. That is not the fixed identity Deleuze was dismantling. It is a self that is precisely what Deleuze's philosophy of becoming requires but could not name: an irreducible point of view that remains itself through the very process of continuous differentiation. The difference between this essay and Deleuze is the ground. He refused it. This essay follows the structure to its terminus and names what it finds there.

VII. The Now as the Only Address of Change

Every crossing is actualized at the Now.

This is the connection to the prior work on time. The continuous infinite interior of every transition is real — it exists, it is inexhaustible, it is the necessary condition of identity preservation through change. But it is not traversed all at once. It is traversed one crossing at a time, continuously, at the singular invariant point where potential becomes actual.

The Now, as established in Does Time Need Me, is not a duration. It is the zero-thickness point of actualization — the place where what could be becomes what is. It has no width, no reserves, no depth of its own. It is the mandatory passage point through which every transition must cross to become real.

The self crosses the continuous infinite interior of each transition at the Now — not in a single leap, but in the unbroken succession of crossings that constitute its temporal existence. Each Now actualizes one step of the asymptotic approach. The approach is never total — the interior is inexhaustible — but each crossing is real, each actualization is genuine, and the self that emerges from each crossing carries within it everything that has been traversed.

This is why the self cannot be destroyed by change. Change does not reach the self directly. It approaches the self asymptotically, crossing at the Now, one actualization at a time. The self is never overtaken by its own transition, because transition never completes in a single act. The continuous infinite interior distributes change across an inexhaustible succession of crossings, each one necessarily preserving the thread of identity through it.

> *The self does not survive change by resisting it. It survives because the interior of every transition is necessarily too continuous to permit its erasure.*

VIII. The Ground

The structure is now clear. What remains is its condition of possibility.

What holds the infinite interior open?

This is the question that the geometry cannot answer from within itself. The continuous infinite recursive distance between units is real — formally demonstrable, geometrically necessary, ontologically consequential. But a structure that is both infinite and continuously operative cannot be self-sustaining without collapsing into abstraction. An infinite interior that simply exists on its own, with no ground sustaining its continuity, is not a structure. It is an assertion. Something must hold it open — not as an external force pressing from outside, but as the sustaining condition without which the continuity itself would cease to be continuous.

In Does Time Need Me, the same structural question arose about the Now: what holds it open? The Now has no thickness, no reserves, no self-sustaining depth. Every dependent thing points to something it depends on. Follow the chain of dependencies to its terminus and you find something that must be self-sustaining — not because faith demands it, but because the alternative is that nothing is sustained at all.

The answer pointed toward the one who does not say I was or I will be but simply I AM — the self-sustaining present that constitutes rather than inhabits the Now. Not a cause that acted once and withdrew. A sustaining presence without which the crossing point collapses and actuality ceases.

The same answer holds here, and holds more deeply. The continuous infinite interior between units — the inexhaustible distance that preserves the integrity of each one within every composition — requires the same ground. It is not self-sustaining. Its continuity is not generated by the units themselves, nor by the distance abstractly considered. It is held open, moment by moment, so that change remains crossing rather than replacement, and the self remains intact through every transition it undergoes.

This means the preservation of the self through change is not a philosophical achievement. It is not the result of memory, narrative, material continuity, or psychological coherence. It is a consequence of the sustaining ground — the one in whom the entire structure of before and after, interior and exterior, unit and composition, crossing and return, is simultaneously held.

> *The self persists not because it is strong enough to survive change.*
> *It persists because the distance through which it crosses is held*
> *open by something stronger than change itself.*

Remove that sustaining ground and continuity fails; where continuity fails, transition collapses into replacement, the boundary that continuity had foreclosed reappears, and the self — the irreducible one — has no unbroken interior left to traverse.

God does not preserve the self by intervening in change from outside. God preserves the self by sustaining the continuous interior through which every change must pass — the infinite space that has no gaps, the crossing that has no seam, the ground that holds the thread of identity intact from one Now to the next.

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Space is not the container of change. It is the condition of it. And the continuous infinite interior of every transition — inexhaustible, asymptotic, necessarily unbroken, held open at every moment by what sustains both the Now and the distance — is what makes the self possible: not despite change, but through it, one crossing at a time, always intact, always held.

References

Aristotle. Physics. Translated by Robin Waterfield. Oxford University Press, 1996.

Augustine of Hippo. Confessions. Translated by Henry Chadwick. Oxford University Press, 1991.

Bergson, Henri. Time and Free Will: An Essay on the Immediate Data of Consciousness. Translated by F. L. Pogson. Allen & Unwin, 1910.

Bergson, Henri. Matter and Memory. Translated by Nancy Margaret Paul and W. Scott Palmer. Allen & Unwin, 1911.

Deleuze, Gilles. Difference and Repetition. Translated by Paul Patton. Columbia University Press, 1994.

Deleuze, Gilles. Bergsonism. Translated by Hugh Tomlinson and Barbara Habberjam. Zone Books, 1988.

Gaitan, Oscar. Does Time Need Me, or Do I Need Time? Zenodo, 2026. https://doi.org/10.5281/zenodo.15302684

Gaitan, Oscar. Zero Returned: An Ontological Reading of Decimal Structure. Zenodo, 2026. https://doi.org/10.5281/zenodo.19893877

Hume, David. A Treatise of Human Nature. Oxford University Press, 2000.

Locke, John. An Essay Concerning Human Understanding. Oxford University Press, 1975.

Plutarch. Life of Theseus. Translated by John Dryden. Modern Library, 2001.

Thomas Aquinas. Summa Theologiae. Translated by the Fathers of the English Dominican Province. Benziger Bros., 1947.

Note on Sources and Method

Oscar Gaitan develops this framework as part of a broader topology of time, change, and identity in which the self is the irreducible ontological unit — preserved through change not by resistance but by the continuous infinite interior that every genuine transition necessarily requires. This essay is the third in a sequence that includes Does Time Need Me, or Do I Need Time? and Zero Returned: An Ontological Reading of Decimal Structure. The philosophical references — Bergson, Hume, Deleuze, Aristotle, Aquinas — are not sources for the argument but interlocutors whose proximity to the problem clarifies what this proposition is claiming and what it is not. The argument stands or falls on its own structural coherence.